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CLAIMS

1. A drug composition consisting of pentarphin with structure Val-Lys-Gly-Phe-Tyr, of its
5 cyclic form, cyclo(Val-Lys-Gly-Phe-Tyr), or of an amino acid sequence containing these
amino acid sequences as a part of molecule, characterized by:
 - (i) one or more of such peptides are administered into a human or animal body,
 - (ii) said drug is administered in such a way that concentration of said peptides appear in
10 the blood circulation and activity and/or concentration of macrophages and/or of T-
lymphocytes are increased, and
 - (iii) the resistance of human or animal organism against microorganisms is increased
while the immunogeneity against the peptides are maintained negligible.
2. A drug composition according to Claim 1, characterized by the total pentarphin
15 concentration in animal or human body does not exceed 10 mg /kg of body weight.
3. A drug composition according to Claims 1 and 2, characterized by:
 - (i) the drug composition additionally contains one or more of conventional antibiotics,
 - (ii) the antibiotics are administered in such a way that their concentration in blood
20 circulation is maintained optimal or suboptimal as to their normal usage, and
 - (iii) the combined use of the peptides and antibiotics results in an increased antimicrobial
effect of the antibiotics or the undesirable side effects of the antibiotics are
diminished.
- 25 4. Structure of unnatural synthetic cyclopentarphin, cyclo(Val-Lys-Gly-Phe-Tyr)
characterized by its increased stability in physiological conditions compared with that of
pentarphin.
5. Peptides of Claim 1, characterized by their increased stability in physiological conditions
30 or their higher bioavailability compared with the conventional linear peptides, such
favourable properties being acquired by chemical coupling of the peptides to other small-
molecular or macromolecular carriers.
6. A cell cultivation medium involving bioactive peptides of Claim 1 or 5 for animal or
35 human cells, cell lines, or hybridomas characterized by:
 - (i) concentrations of bioactive peptides are not more than 10mg/ l,
 - (ii) the cell cultures contain macrophages in addition to said animal or human
cells,
 - (iii) the cultivation medium may contain antibiotics according to Claim 3.